**AMENDMENTS TO THE SPECIFICATION:**

Please amend the specification as follows:

On page 24, please amend the paragraph beginning at line 17 as follows:

Neglecting the transverse sensitivity, assume that the X component, Y component and Z component of the acceleration input in the (1, 1, 1) direction are given by t. Then, the absolute value of the acceleration as the output signal becomes $\sqrt{3}\cdot\tau$. In terms of the matrix sensitivity considering the transverse sensitivity e, the absolute value of the acceleration as the output signal becomes $\sqrt{3}/(1+2\varepsilon)\cdot\tau$. Considering this in reverse, the signal to be measured as the input signal of $\sqrt{3}\tau/(1+2\varepsilon)$ correctly is recognized as $\sqrt{3}\tau$. The error in this case becomes 2e% according to the following expression **[[(24)]]** (8).

On page 27, please amend the paragraph beginning at line 4 as follows:

[[FIG. 1]] FIG. 1A is a diagram illustrating a calibration method of an accelerometer/acceleration sensor;

On page 27, please add the following three paragraphs before the paragraph beginning at line 6:

FIG. 1B is a diagram illustrating a calibration method of an accelerometer/acceleration sensor;

FIG. 1C is a diagram illustrating a calibration method of an accelerometer/acceleration sensor;

FIG. 1D is a diagram illustrating a calibration method of an accelerometer/acceleration sensor;

On page 27, please amend the paragraph beginning at line 10 as follows:

[[FIG. 4]] FIG. 4A is a diagram illustrating an example of an acceleration sensor and an acceleration vector;

On page 27, please add the following four paragraphs before the paragraph beginning at line 12:

FIG. 4B is a diagram illustrating an example of an acceleration sensor and an acceleration vector;

FIG. 4C is a diagram illustrating an example of an acceleration sensor and an acceleration vector;

FIG. 4D is a diagram illustrating an example of an acceleration sensor and an acceleration vector;

FIG 4E is a diagram illustrating an example of an acceleration sensor and an acceleration vector;

On page 28, please amend the paragraph beginning at line 13 as follows:

[[FIG. 16]] FIG. 16A is a diagram illustrating still another example of the acceleration sensor;

On page 28, please add the following two paragraphs before the paragraph beginning at line 15:

<u>FIG. 16B is a diagram illustrating still another example of the acceleration sensor;</u>

<u>FIG. 16C is a diagram illustrating still another example of the acceleration sensor;</u>

On page 28, please amend the paragraph beginning at line 17 as follows:

[[FIG. 18]] <u>FIG. 18A</u> is a diagram illustrating a structure of another sensor;

On page 28, please add the following two paragraphs before the paragraph beginning at line 19:

<u>FIG 18B is a diagram illustrating a structure of another sensor;</u>

<u>FIG 18C is a diagram illustrating a structure of another sensor;</u>

On page 28, please amend the paragraph beginning at line 19 as follows:

[[FIG. 19]] <u>FIG. 19A</u> is a diagram illustrating structures of **[[other]]** <u>another</u> sensor;

On page 28, please add the following two paragraphs before the paragraph beginning at line 20:

<u>FIG. 19B is a diagram illustrating structures of another sensor;</u>

On page 42, please amend the paragraph beginning at line 25 as follows:

Assume that the input acceleration is represented by $a_{iy}$exp(j $\omega$ $t$), and the output signal of the uniaxial acceleration sensor 8 is represented by $a_{oy}$exp(j $\omega$ $t$), then the main axis sensitivity **[[**$S_{xx}$( $\omega$ )**]]** $\underline{S_{yy}(\omega)}$ of the uniaxial acceleration sensor 8 is defined by the following expression.

On page 49, please amend the paragraph beginning at line 6 as follows:

Assume that $S_{xx} = S_{yy} = S_{zz} = S$, and all the transverse sensitivities are equal and given by $S_{xy} = S_{xz} = S_{yx} = S_{yz} = SS_{zx} = S_{zy} = \varepsilon x S$, then the following expression holds. Thus, multiplying the output signal by the inverse matrix of the matrix sensitivity makes it possible to obtain the input signal at higher accuracy.

$$\det\begin{pmatrix} S_{xx} & S_{xy} & S_{xz} \\ S_{yx} & S_{yy} & S_{yz} \\ S_{zx} & S_{zy} & S_{zz} \end{pmatrix} = \begin{vmatrix} S & \varepsilon S & \varepsilon S \\ \varepsilon S & S & \varepsilon S \\ \varepsilon S & \varepsilon S & S \end{vmatrix} = S^3 \begin{vmatrix} 1 & \varepsilon & \varepsilon \\ \varepsilon & 1 & \varepsilon \\ \varepsilon & \varepsilon & 1 \end{vmatrix} = S^3(\varepsilon-1)^2(2\varepsilon+1) \neq 0 \qquad (22)$$

Generally, it is reasonable to assume that $\varepsilon \leq 1$ because the ratio of the transverse sensitivity to the main axis sensitivity is less than one. Then, the inverse matrix of the matrix sensitivity is considered to exist from the expression **[[**(1)**]]** <u>(22)</u>.

On page 53, please amend the paragraph beginning at line 21 as follows:

In addition, the laser radiation plane can be placed on a plane parallel to the rotational axis rather than on the plane including the rotational axis. FIGs. 18A-18C shows a sensor with a structure having such a plane. First, as shown in FIG. 18A, a screw thread is cut on the side of the portion with the cylindrical section of the sensor

18. Then, a ring-shaped part 19 and part 20 as shown in FIGs. 18B and 18C are screwed onto the screw thread portion. The part 19 undergoes processing (such as cutting with sufficiently high accuracy) in such a manner that its two adjacent outer sides 19a and 19b have flat surfaces which are located on planes parallel to the rotational axis when the part 19 is screwed onto the sensor 18 and which make an angle of 90 degrees. The other part 20, which makes contact with the part 19 to fasten it to the sensor 18, can be fixed in place after determining the position of the part 19 around the axis of the uniaxial acceleration sensor **[[14]]** 18. Such a structure makes it possible, when mounting the sensor 18 on the cubical block in such a manner that the rotational axis of the sensor 18 is aligned with the center of rotation of the uniaxial vibration generator for generating the rotational vibration motion, and when applying the rotational vibration motion and calculating the transverse sensitivity of the sensor in each example described above, to refer to the output value of the sensor 18 obtained by the application and to the measurement values of the angular velocity or angular acceleration obtained by irradiating the two positions on the planes **[[18a]]** 19a and **[[18b]]** 19b with the lasers from the two laser interferometers at the application. The planes **[[18a]]** 19a and **[[18b]]** 19b have indicators such as a scale thereon to make clear the distance from the rotational axis of the sensor 18 to the plane **[[18a]]** 19a and **[[18b]]** 19b, and the geometrical relationships between the laser radiation point on the plane **[[18a]]** 19a and **[[18b]]** 19b and the rotational axis of the sensor 18 to calculate the measurement values by the laser interferometers. In addition, the planes **[[18a]]** 19a and **[[18b]]** 19b of the example are thicker in the direction of the main sensing axis of the sensor 18, thereby enabling the lasers from the two laser interferometers to

irradiate two points in the direction of the main sensing axis of the sensor 18 on each plane. In this case, it is possible to examine the effect of the angular velocity and angular acceleration about the rotational axes other than the main sensing axis of the sensor 18.